

COMPLETE LISTING OF THE CLAIMS

The following lists all of the claims that are or were in the above-identified patent application. The status identifiers respectively provided in parentheses following the claim numbers indicate the current statuses of the claims

Claims 1-23 (Canceled)

24. (Previously Presented) A process for operating a detector comprising:

(a) generating a measurement signal from ionization that arises when exposing sample gas to output from a lamp operated at an initial level of a drive power;

(b) determining a concentration of ionizable gases using the measurement signal generated in step (a) and a mapping of measurement signal levels to concentrations of the ionizable gases;

(c) changing the drive power to a new level in response to a trigger event that indicates that intensity of the output of the lamp may have changed;

(d) generating the measurement signal from ionization that arises when exposing sample gas to the output from the lamp operated at the new level;

(e) determining a concentration of the ionizable gases using the measurement signal generated in step (d) and the mapping of measurement signal levels to concentrations of the ionizable gases; and

repeating steps (c), (d), and (e) at intervals during operation of the detector, wherein repeating steps (c), (d), and (e) occurs between consecutive calibrations of the detector, wherein each calibration of the detector comprises:

(a1) selecting a coarse level from a plurality of coarse levels for the drive power;

(b1) applying the drive power at the selected coarse level to the lamp;

(c1) recording the measurement signal generated from ionization that arises from exposing a gas mixture to the output from the lamp at the selected coarse level;

(d1) repeating steps (a1), (b1), and (c1) until the measurement signal for each of the coarse levels have been recorded; and

(e1) setting the initial level of the drive power to the coarse level that corresponds to a desired mapping of measurement signal levels to concentrations of ionizable gases.

25. (Original) The process of claim 24, wherein changing the drive power in step (c) changes the drive power by less than a difference between the initial level and a next higher one of the coarse levels.

26. (Original) The process of claim 24, wherein repeating steps (c), (d), and (e) between the consecutive calibrations of the detector ends when an accumulation of changes in step (c) is equal to or greater than a difference between the initial level and a next higher one of the coarse levels.

Claims 27-36 (Canceled)